



Figure 1. Flowchart of declared system

**Figure 2**

|       |       |       |
|-------|-------|-------|
| $P_1$ | $P_2$ | $P_3$ |
| $P_8$ | $P$   | $P_4$ |
| $P_7$ | $P_6$ | $P_5$ |

Figure 3

| dir<br>order | 0       | 1       | 2       | 3     | 4      | 5      | 6      |
|--------------|---------|---------|---------|-------|--------|--------|--------|
| 0            | (-3,0)  | (-2,0)  | (-1,0)  | (0,0) | (1,0)  | (2,0)  | (3,0)  |
| 1            | (-3,-1) | (-2,0)  | (-1,0)  | (0,0) | (1,0)  | (2,0)  | (3,1)  |
| 2            | (-3,-1) | (-2,-1) | (-1,0)  | (0,0) | (1,0)  | (2,1)  | (3,1)  |
| 3            | (-3,-2) | (-2,-1) | (-1,-1) | (0,0) | (1,1)  | (2,1)  | (3,2)  |
| 4            | (-3,-3) | (-2,-2) | (-1,-1) | (0,0) | (1,1)  | (2,2)  | (3,3)  |
| 5            | (-2,-3) | (-1,-2) | (-1,-1) | (0,0) | (1,1)  | (1,2)  | (2,3)  |
| 6            | (-1,-3) | (-1,-2) | (0,-1)  | (0,0) | (0,1)  | (1,2)  | (1,3)  |
| 7            | (-1,-3) | (0,-2)  | (0,-1)  | (0,0) | (0,1)  | (0,2)  | (1,3)  |
| 8            | (0,-3)  | (0,-2)  | (0,-1)  | (0,0) | (0,1)  | (0,2)  | (0,3)  |
| 9            | (1,-3)  | (0,-2)  | (0,-1)  | (0,0) | (0,1)  | (0,2)  | (-1,3) |
| 10           | (1,-3)  | (1,-2)  | (0,-1)  | (0,0) | (0,1)  | (-1,2) | (-1,3) |
| 11           | (2,-3)  | (1,-2)  | (1,-1)  | (0,0) | (-1,1) | (-1,2) | (-2,3) |
| 12           | (3,-2)  | (2,-1)  | (1,-1)  | (0,0) | (-1,1) | (-2,1) | (-3,2) |
| 13           | (3,-1)  | (2,-1)  | (1,0)   | (0,0) | (-1,0) | (-2,1) | (-3,1) |
| 14           | (3,-1)  | (2,0)   | (1,0)   | (0,0) | (-1,0) | (-2,0) | (-3,1) |
| 15           | (3,0)   | (2,0)   | (1,0)   | (0,0) | (-1,0) | (-2,0) | (-3,0) |

Figure 4

|   | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | A | B | C | D | E | F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 0 |
| 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 |
| 3 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 |
| 4 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| 5 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 |
| 6 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 |
| 7 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 |
| 8 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| 9 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| A | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| B | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| C | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| D | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| E | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| F | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |

[illegible]

|   | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | A | B | C | D | E | F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 3 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 |
| 4 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 5 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 6 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 7 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| 8 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 9 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| A | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| B | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| C | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| D | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| E | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| F | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 |